

CLAIMS

1) An intraplastid-targeting polypeptide, characterized in that it comprises:

5 - a domain A consisting of a polypeptide having at least 60% identity, or at least 65% similarity, with one of the polypeptides SEQ ID NO: 4 or SEQ ID NO: 5 ;

and at least one domain chosen from:

10 - a domain B located at the N-terminal end of domain A, and consisting of a fragment of one of the polypeptides SEQ ID NO: 1 or SEQ ID NO: 3 comprising at least amino acids 49 to 59 of said polypeptide, or else of a polypeptide having at least 60% identity, or at least 65% similarity, with said fragment;

15 - a domain C located at the C-terminal end of domain A, and consisting of a fragment of one of the polypeptides SEQ ID NO: 1 or SEQ ID NO: 3 comprising at least amino acids 101 to 111 of said polypeptide, or else of a polypeptide having at least 60% identity, or at least 65% similarity, with said fragment.

20 2) The polypeptide as claimed in claim 1, characterized in that domain B consists of a fragment comprising at least amino acids 39 to 59 of the polypeptides SEQ ID NO :1 or SEQ ID NO :3, or else of a polypeptide having at least 60% identity, or at least 65% similarity, with said
25 fragment.

3) The polypeptide as claimed in either one of claims 1 and 2, characterized in that domain C consists of a fragment comprising at least amino acids 101 to 121 of the polypeptides SEQ ID NO :1 or SEQ ID NO :3, or else of a
30 polypeptide having at least 60% identity, or at least 65% similarity, with said fragment.

4) A chimeric polypeptide, comprising an intraplastid-targeting polypeptide as claimed in any one of claims 1 to 3, fused with a heterologous protein.

35 5) The chimeric polypeptide as claimed in claim 4, characterized in that the intraplastid-targeting polypeptide is placed at the N-terminal end of the heterologous protein.

6) The use of an intraplastid-targeting polypeptide as claimed in claim 1, for the importation of a protein of interest into plastids.

5 7) The use as claimed in claim 6, characterized in that said intraplastid-targeting polypeptide is used for the importation of said protein of interest into chloroplasts.

10 8) A method for importing a protein of interest into plastids, characterized in that it comprises the expression, in a plant cell containing said plastids, of a chimeric polypeptide resulting from the fusion of an intraplastid-targeting polypeptide as claimed in claim 1 with said protein of interest.

15 9) A polynucleotide encoding a polypeptide as claimed in any one of claims 1 to 5.

10) An expression cassette comprising a polynucleotide as claimed in claim 9, placed under the control of sequences for regulating the transcription.

20 11) A recombinant vector resulting from the insertion of a polynucleotide as claimed in claim 9, or of an expression cassette as claimed in claim 10, into a host vector.

25 12) A transgenic plant transformed with a polynucleotide as claimed in claim 9 or an expression cassette as claimed in claim 10.